SIEMENS

Data sheet 3RT1046-1BB40

Figure similar

CONTACTOR, AC-3 45 KW/400 V, DC 24 V, 3-POLE, SIZE S3, SCREW CONNECTION

product brand name	SIRIUS
Product designation	power contactor

General technical data:	
Size of contactor	S3
Insulation voltage	
• Rated value	1 000 V
Degree of pollution	3
Surge voltage resistance Rated value	6 kV
Mechanical service life (switching cycles)	
• of the contactor typical	10 000 000
• of the contactor with added electronics-compatible auxiliary switch block typical	5 000 000
• of the contactor with added auxiliary switch block typical	10 000 000
Protection class IP	
• on the front	IP00
• of the terminal	IP00
Equipment marking	
• acc. to DIN EN 61346-2	Q
• acc. to DIN EN 81346-2	Q

Ambient conditions:	
Installation altitude at height above sea level maximum	2 000 m
Ambient temperature	
• during operation	-25 ... +60 °C

• during storage	-55 ... +80 °C

Main circuit:	
Number of poles for main current circuit	3
Number of NC contacts for main contacts	0
Number of NO contacts for main contacts	3
Connectable conductor cross-section in main circuit at AC-1	
• at 60 °C minimum permissible	35 mm²
• at 40 °C minimum permissible	50 mm²
Operating current	
• at AC-1 at 400 V	
— at ambient temperature 40 °C Rated value	120 A
• at AC-1 up to 690 V	
— at ambient temperature 40 °C Rated value	120 A
— at ambient temperature 60 °C Rated value	100 A
• at AC-3	
— at 400 V Rated value	95 A
— at 690 V Rated value	58 A
• at AC-4 at 400 V Rated value	80 A
Operating current for ≥ 200000 operating cycles at AC-4	
• at 400 V Rated value	42 A
• at 690 V Rated value	27 A
Operating current	
• with 1 current path at DC-1	
— at 24 V Rated value	100 A
— at 110 V Rated value	9 A
• with 2 current paths in series at DC-1	
— at 24 V Rated value	100 A
— at 110 V Rated value	100 A
• with 3 current paths in series at DC-1	
— at 24 V Rated value	100 A
— at 110 V Rated value	100 A
Operating current	
• with 1 current path at DC-3 at DC-5	
— at 24 V Rated value	40 A
— at 110 V Rated value	2.5 A
• with 2 current paths in series at DC-3 at DC-5	
— at 110 V Rated value	100 A
— at 24 V Rated value	100 A
• with 3 current paths in series at DC-3 at DC-5	

— at 110 V Rated value	100 A
— at 24 V Rated value	100 A
Operating power	
• at AC-1	
— at 230 V at 60 °C Rated value	38 kW
— at 690 V at 60 °C Rated value	114 kW
Operating power for ≥ 200000 operating cycles at AC-4	
• at 400 V Rated value	22 kW
• at 690 V Rated value	25.4 kW
Thermal short-time current restricted to 10 s	760 A
Active power loss at AC-3 at 400 V for rated value of the operating current per conductor	10.8 W
No-load switching frequency	
• for DC	1 000 1/h
Operating frequency	
• at AC-1 maximum	900 1/h
• at AC-2 maximum	350 1/h
• at AC-3 maximum	850 1/h
• at AC-4 maximum	250 1/h

Control circuit/ Control:	
Type of voltage of the control supply voltage	DC
Control supply voltage for DC	
• Rated value	24 V
Operating range factor control supply voltage rated value of the magnet coil for DC	0.8 ... 1.1
Closing power of the magnet coil for DC	15 W
Holding power of the magnet coil for DC	15 W
Closing delay	
• for DC	90 ... 230 ms
Arcing time	10 ... 15 ms

Auxiliary circuit:	
Number of NC contacts	
• for auxiliary contacts	
— instantaneous contact	0
Number of NO contacts	
• for auxiliary contacts	
— instantaneous contact	0
Operating current at AC-12 maximum	10 A
Operating current at AC-15	
• at 230 V Rated value	6 A
• at 400 V Rated value	3 A

Operating current at DC-12	
• at 60 V Rated value	6 A
• at 110 V Rated value	3 A
• at 220 V Rated value	1 A
Operating current at DC-13	
• at 24 V Rated value	10 A
• at 60 V Rated value	2 A
• at 110 V Rated value	1 A
• at 220 V Rated value	0.3 A
Contact reliability of the auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)

UL/CSA ratings:	
Contact rating of the auxiliary contacts acc. to UL	A600 / Q600

Short-circuit:	
Design of the fuse link	
• for short-circuit protection of the main circuit	
— with type of assignment 1 required	fuse gL/gG: 250 A
— with type of assignment 2 required	fuse gL/gG: 160 A
• for short-circuit protection of the auxiliary switch required	fuse gL/gG: 10 A

Installation/ mounting/ dimensions:	
Mounting type	screw and snap-on mounting onto 35 mm and 75 mm standard mounting rail
• Side-by-side mounting	Yes
Height	146 mm
Width	70 mm
Depth	152 mm
Required spacing	
• for grounded parts	
— at the side	6 mm

Connections/ Terminals:	
Type of electrical connection	
• for main current circuit	screw-type terminals
• for auxiliary and control current circuit	screw-type terminals
Type of connectable conductor cross-section	
• for main contacts	
— solid	2x (2.5 ... 16 mm²)
— stranded	2x (10 ... 50 mm²)
— single or multi-stranded	2x (2,5 ... 16 mm²)
— finely stranded with core end processing	2x (2.5 ... 35 mm²)
— finely stranded without core end processing	2x (10 ... 35 mm²)

• for AWG conductors for main contacts	2x (10 ... 1/0)
Type of connectable conductor cross-section	
• for auxiliary contacts	
— solid	2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), max. 2x (0.75 ... 4 mm²)
— finely stranded with core end processing	2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)
• for AWG conductors for auxiliary contacts	2x (20 ... 16), 2x (18 ... 14), 1x 12

Certificates/ approvals:

General Product Approval				Functional Safety/Safety of Machinery	Declaration of Conformity
				Type Examination	
CCC	CSA		UL		EG-Konf.

Test Certificates			Shipping Approval		
Special Test Certificate	Type Test Certificates/Test Report	other	ABS	GL	LRS

Shipping Approval		other		
		other	Confirmation	Environmental Confirmations
RINA	RMRS			

Further information

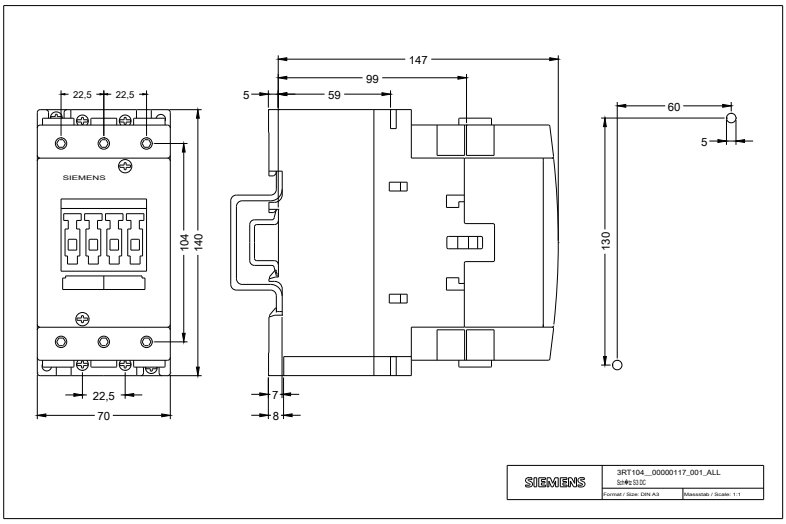
Information- and Downloadcenter (Catalogs, Brochures,…)
http://www.siemens.com/industrial-controls/catalogs

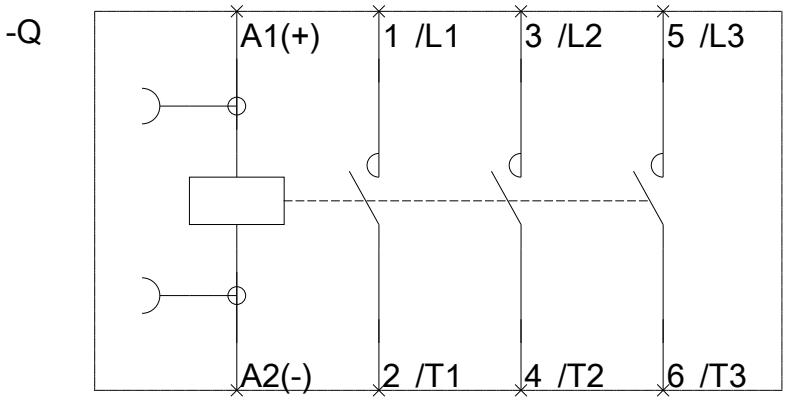
Industry Mall (Online ordering system)
http://www.siemens.com/industrymall

Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT10461BB40

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RT10461BB40

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT10461BB40&lang=en





last modified: 02.06.2015